pages, it is stated in conclusion, "that the details will be filled up and completed in the zoological department of the county;" and on this account we should not perhaps have spoken so lightly of it, but we know that there are so many parts of Ireland unexplored that we do feel disappointed. A naturalist should be attached to the survey during all its working and travelling time; the expense would be comparatively small, the information would be great, and without this we can scarcely expect to see the "natural state" brought up to the same standard with the other portions of this great and national undertaking.

At the conclusion of this volume there is appended "Notices," accompanied with plates; these are very important. The Notices are stated to be "published for the more speedy information of men of science, in anticipation of the parochial memoirs, in proper connexion with which the subjects will be ultimately described," and the plates devoted to organic remains and to botany are beautifully executed. This plan is also excellent, and might perhaps be made to supersede entirely any temporary sketch of the natural state of each parish, such as we have just noticed, until the natural history of the whole county was prepared. They might also be so introduced as to form a separate work, detailing the most interesting discoveries among the natural productions of Ireland when the great survey was completed, and thus be more useful and easily accessible to the professed naturalist.

Many of these notices have appeared elsewhere previously, and are chiefly relative to botany and the lower classes of zoology. The plates are three, devoted to fossil remains, the others to *Calamagrostis lapponica, Carex Buxbaumii, Polysiphonia atropurpurea,* and *P. affinis.*

*The Edinburgh New Philosophical Journal.* Conducted by Professor Jameson. No. for January 1838. Edinburgh, A. Black and Co. 8vo.

JANUARY 1838. *Zoology.*

I. *Experiments on the development and growth of the fry of the Salmon, from the exclusion of the ovum to the age of seven months.* By Mr. John Shaw, Dumlunry, Dumfriesshire. This is one of the most important papers on the subject which has been published since 1800; and although circumstances wherein any animal is to a certain extent artificially placed must be viewed with caution, the experiments now detailed are nearly as perfect as, under the circumstances, they could be. Mr. Shaw was previously known

to have performed some experiments to ascertain the range of the growth of the young salmon after its exclusion from the egg, and those now described were begun after these trials, and prior experience, had brought the whole arrangement tolerably perfect.

Mr. Shaw had made a series of small artificial ponds, having a run of pure water passing through them; and the lead bottoms gravelled so as to resemble as near as possible the native spawning beds, and the resort of the young fry after they were hatched. Two salmon were taken from their spawning-bed in the frith while just ready to deposit their spawn; these were made immediately to shed their spawn together, in a pool formed for the purpose by the side of the river, and the impregnated ova were afterwards removed to Mr. Shaw's breeding pond. There it was hatched 101 days after impregnation; and at the age of six months, or in the November following (the time when his paper was read), the young had attained the length of about three inches. From these results Mr. Shaw considers that the young or fry do not proceed to the sea in the same year they are hatched, as has been generally supposed, but that they remain in the fresh water over the first winter, and migrate about the May following, or when about twelve or thirteen months old. The fry or young salmon have hitherto been supposed to migrate to the sea the same spring in which they were hatched from the egg; and if it shall be hereafter proved that they do not leave the rivers for thirteen or fourteen months, it is evident that an immense destruction must take place during their continuance in the fresh water, a circumstance of great importance to the fisheries.

*Botany.*

I. *On the Tree which produces the Gamboge of Commerce.* By R. Wright. (Extracted from the Madras Journal.) Together with explanatory notes by Dr. Grohm. The paper in the Madras Journal is written after reading Dr. Grohm's papers in the Companion to the Botanical Magazine, and evidently to a certain extent misunderstanding the latter author, from having not seen all the accounts which had been published in this country. Dr. Grohm corrects and explains his own observations, in the remarks which accompany the Madras extract; but nothing new has been elicited since we formerly noticed the subject.—II. *On Algæ which communicate a red colour to the waters of some salt marshes.* By M. Dunal. In several of the Continental salt-works the crystals were often observed to be of a beautiful rose colour, or the water to have a ferruginous orange tint, at the edges of which was also observed a scum of the

same colour. This was thought to be caused by a small "Branchiopode," *Artemia salina*. The examinations of M. Dunal found however that this little animal, though abounding, was perfectly colourless, or rather white than red; and continued observation has shown him that the colouring matter proceeded from a minute *Protococcus*, to which he has applied the name of *salinus*. The orange red again, or rosy colour, he found produced by another plant, to which the name of *Hæmatococcus salinus* has been applied; but at the same time, he observes, that the *Protococcus* may turn out to be only the young state of the other. Among the "Scientific Intelligence" is recorded the discovery of *Carex leporina*, Linn., Loch-Nagar, by Mr. Dickie, of Aberdeen.

### *Works in the Press.*

*A History of the British Zoophytes.* By George Johnston, M.D., Fellow of the Royal College of Surgeons of Edinburgh, &c.

The object of the present work is to describe every species of this interesting class of animals ascertained to inhabit the British Islands. The first part of the volume is devoted to the history of zoophytology, and to details on the structure, physiology, and classification of zoophytes; and the second contains the description of the species.

We are perfectly convinced, that this volume will not only be an acceptable one to scientific naturalists, but to all those who, through various channels, have heard of the discoveries relating to this class of beings in the memoirs of Trembley, Baker, and Ellis. The work of Ellis on the British Corallines, published in the year 1755, has been long out of print, and is now extremely rare. But the present author, with a complete knowledge of everything that has been previously written on the subject, has given correct details regarding all the species hitherto discovered from personal observation; and his known talents leave it little doubtful that this work will in future be a standard one in all that regards the Natural History of British Zoophytes.

Since the publication of Ellis's Essay on Corallines in 1755, no separate work has appeared in illustration of the history of British zoophytes. In the mean time, a much more accurate knowledge of the structure and habits of these remarkable productions has been attained, and many curious species have been discovered in our seas, the notices of which lie scattered through numerous volumes of a miscellaneous nature, often very difficult to procure, and not attainable without considerable expense. To collect into one volume, of